

Remarks

The present amendment responds to the Official Action dated April 9, 2002. That action objected to the specification as containing inconsistent element numbers. Claims 1-14 were rejected under 35 U.S.C. 103(a) as anticipated by Goodwin, III, U.S. Patent No. 5,663,963 ("Goodwin") in view of Gauronski et al. U.S. Patent No. 5,467,449 ("Gauronski").

The specification has been amended to correct typographical errors. Claims 1-14 are presently pending.

The Present Invention

An electronic price label according to the present invention performs periodic self-diagnosis for faults, and then, it reports detected faults through a visual display or audible tone. Alternatively, these faults are communicated to a central reporting system. The price label includes a processor which controls normal operation for the label, and which also runs a diagnostic program at periodic intervals. The processor, under control of the diagnostic program, exercises each component of the electronic price label and receives responses from the components. The processor then compares the responses received against fault signatures and reports as a failure any response matching a fault signature. The electronic price label performs self diagnosis, relieving the central reporting system from having to make status inquiries to the electronic price label and check the reported status against the expected status in order to determine whether or not the label is faulty. In one aspect of the present invention, during normal operation, the price label periodically issues a "normal operation" signal. If the central reporting system fails to detect the "normal operation" signal during a predetermined time interval, the label is presumed to be faulty and an investigation is performed. In another aspect

of the present invention, the price label transmits an indication to the central reporting system to report a fault.

The Objection to the Specification

The specification of the present invention was objected to as containing inconsistent element number. The specification has been amended to correct these typographical errors and the Examiner is thanked for his careful reading of the specification.

The Art Rejections

Claims 1-14 were rejected under 35 U.S.C. 103(a) as anticipated by Goodwin in view of Gauronski. These art rejections are traversed as not supported by the relied upon art as discussed in greater detail below. As a general matter, it is noted that 35 U.S.C. 103 requires that an invention be considered as a whole. When so considered, the present claims are not obvious.

Goodwin is entitled "Method For Detecting and Reporting Failures in EPL Systems." Goodwin describes an EPL system in which a host computer transmits a status request to an electronic price label utilizing a communication base station (CBS). The EPL then transmits a status reply signal in response to the received status message to the host computer utilizing the CBS. The return signal includes status information and the CBS passes the status information to a central computer, which compares the status information against expected status information to determine whether a fault has occurred.

In contrast to Goodwin, the present invention addresses an EPL which may perform self-diagnostics without waiting for a status request or any other intervention from a central processor. If any faults are discovered during the self-diagnosis, the EPL is then able to inform the central processor of the fault, or provide some other indication of fault, such as displaying an

error message on the ESL's display or producing an audible sound. Again, this operation is not dependent upon intervention by a central processor.

Claim 1, for example, claims an electronic price label comprising "a processor adapted to control operation of the memory, the interface and the display, the processor being operative to perform diagnostic tests on one or more of the memory, the interface and the display and report a detected failure of one or more of the diagnostic tests, *said processor operative to perform said diagnostic tests and report the detected failure independent of a status request transmitted to the electronic price label from a central computer.*"

The present invention performs diagnosis within the electronic price label, detecting a fault without any need to exchange information with a CBS or central computer. As indicated above, the workload on the central computer, the communication base stations and the other central elements of the electronic price label system is reduced because the price label can diagnose and report a failure without receiving a status request at all and can report a failure. Moreover, in case of a less than total failure, for example, the electronic price label can issue a local alert without any need to communicate with the communication base station. For example, the alert may take the form of an audible beep to draw the attention of a repair person or other appropriate store personnel, and a display message identifying the nature of the failure, if the failure is of a nature which permits the display to continue operating.

See also claim 6, for example, which claims an electronic price label system including a plurality of electronic price labels, each of the labels "operative to communicate with the central processor, the labels being operative to display information based on information received from the central processor, each of the labels being operative to perform an internal self-diagnostic test *independent of a status request issued by the central processor, and provide an alert or*

indication reporting failure of the self-diagnostic test." As noted above with respect to claim 1, Goodwin does not teach electronic price labels which are operative to perform an internal self-diagnostic test independent of the central processor as presently claimed.

Gauronski fails to remedy any of the deficiencies of Goodwin as a reference. Gauronski is entitled "Fault Clearance and Recovery in an Electronic Reprographic System" and describes a system for detecting and correcting faults in a photocopier. When a fault, such as a paper jam, occurs in the system of Gauronski, the system detects and classifies the fault. Then, depending on the nature of the fault, the system will provide instructions for a user to clear the fault or clear the fault directly. While Gauronski does indicate that the system may perform a self-test to detect hardware errors, Gauronski provides no teachings relevant to the presently claimed EPL system. Simply put, Gauronski is radically different from the present invention and addresses different problems in an area completely unrelated to the field of the present invention, and thus, is clearly nonanalogous art.

Moreover, the teachings of Gauronski do not teach and do not render obvious the present claims. See claim 5, for example, which recites "the label is operative to periodically transmit a signal indicating that the label is operating normally." If a central reporting system in accordance with the present invention fails to detect such a signal during a predetermined time interval, the label is presumed to be faulty and an investigation may be performed. The relied upon art does not teach and does not render obvious such a limitation.

Furthermore, there is no suggestion to combine Goodwin with Gauronski. The suggested combination of Goodwin and Gauronski is mere hindsight reasoning. As a general matter of law, the Court of Appeals for the Federal Circuit has repeatedly cautioned that in an obviousness determination, a motivation or suggestion to combine references must be identified. See, for

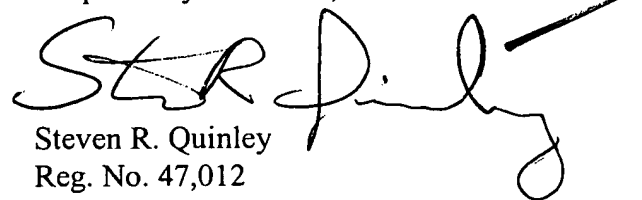
example, In re Rouffet, 149 F.3d 1350, 47 USPQ 2d 1453 (Fed. Cir. 1998). It would not be obvious to one of ordinary skill in the art to combine the teachings of the EPL system of Goodwin and the photocopier fault clearance system of Gauronski. As described above, the reprographic copier system of Gauronski is clearly nonanalogous art. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). This established threshold is not met here.

To sum up, nothing in the cited references teaches or makes obvious a system which solves the problems of self-diagnosing electronic price labels addressed by the present invention. Quite simply, the cited references fail to anticipate or render obvious the present invention because they fail to recognize or solve the problems of EPL usage addressed by the present invention. The claims as presently amended are not taught, are not inherent, and are not obvious in light of the art relied upon.

Conclusion

All of the presently pending claims, as amended, appearing to define over the applied references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "S. R. Quinley", with a long horizontal stroke extending to the right.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification

At page 6, the paragraph beginning at line 3 was replaced with the following rewritten paragraph:

-- Fig. 2 illustrates a self-diagnosing electronic price label 200 according to the present invention, suitable for use as one of the electronic price labels in groups [120A] 102A through [120D] 102D of Fig. 1. The label 200 includes a label processor 202, which may suitably be implemented as a digital signal processor, and a communications interface 204 for communicating with a communication base station such as the communication base station 114A. The communications interface 204 includes a transmitter 206A and a receiver 206B, as well as an antenna 207. The price label 200 includes various other electronic components, including a battery 208, and display 210. The label 200 further includes read-only memory 212 for permanent storage of instructions and other data, as well as writable memory such as flash memory 214, for storage of data which does not change frequently. The label 200 may suitably store several different data items in memory registers 214A-214D, which may be portions of the flash memory 214. The memory registers 214A-214D are subject to testing for content as well as proper operation. A pushbutton 215 is provided whereby a customer may direct the processor 202 to select the contents of any one of the registers 214A-214D for display. Repeated presses of the pushbutton 215 cycle between the different registers 214A-214D. The label 200 also includes volatile memory 216. The volatile memory 216 is used for short-term data storage in performing the normal operations of the electronic price label 200.--

At page 8, the paragraph beginning at line 17 was replaced with the following rewritten paragraph:

--Fig. 3 illustrates in greater detail an electronic price label 300 according to the present invention, which may suitably be employed as one of the electronic price labels in groups [120A] 102A through [120D] 102D. The label 300 includes a control circuit 302, which may suitably be implemented as a single integrated circuit. The control circuit 302 includes an EPL processor 304, read-only memory 306, volatile memory 308, a communications interface 310, an audio synthesizer 312, a timer/counter circuit 314, an LCD controller/driver 316, a battery low detector 318, and a plurality of input/output ports, shown here as first port 320A and second port 320B. The label 300 also includes a battery 322, an audio amplifier 324, a pushbutton 326, LCD display 328, radio frequency (RF) diode and modulator 330 and antenna 332.--